

CHAPTER 122  
CATHODE RAY TUBE DEVICE RECYCLING

**567—122.1(455B,455D) Purpose.** These rules are intended to satisfy the requirements of Iowa Code sections 455D.6(7) and 455B.304(1). The purpose of this chapter is to implement rules for the recycling of discarded CRTs and the disassembly and removal of toxic parts from discarded CRTs in a manner that is safe for human health and the environment.

**567—122.2(455B,455D) Applicability and compliance.**

**122.2(1)** This chapter applies to facilities that perform CRT recycling functions, including but not limited to the collection, refurbishing, demanufacturing, and processing of discarded CRTs.

**122.2(2)** This chapter does not apply to facilities solely engaged in CRT reuse activities. This chapter does not apply to businesses solely engaged in CRT service and repair. This chapter does not apply to batteries, circuit boards, CRTs, mercury-containing components, or PCB capacitors removed during the maintenance or service of equipment containing such items.

**122.2(3)** These rules do not pertain to appliance demanufacturing. For rules pertaining to appliance demanufacturing, see 567—Chapter 118.

**122.2(4)** The issuance of a permit by the department in no way relieves the applicant of the responsibility of complying with all other local, state, or federal statutes, ordinances, and rules or other requirements applicable to the construction and operation of a CRT recycling facility.

**122.2(5)** CRT recycling facilities and CRT collection facilities in operation before September 22, 2004, shall apply for a permit within 90 days of September 22, 2004. CRT recycling facilities and CRT collection facilities in operation before September 22, 2004, shall comply with these rules or close within one year of September 22, 2004.

**567—122.3(455B,455D) Definitions.** In addition to the definitions set out in Iowa Code section 455B.301, which shall be considered to be incorporated by reference in these rules, the following definitions shall apply:

“*Battery*” means a device consisting of one or more electrically connected electrochemical cells, which is designed to receive, store, and deliver electric energy.

“*Broken CRT*” means a CRT that has had the glass broken or the vacuum released. “Broken CRT” does not include a CRT that is intact but not functional.

“*Capacitor*” means a device for accumulating and holding a charge of electricity that consists of conducting surfaces separated by a dielectric fluid. For the purposes of this chapter, “capacitor” does not include dry-cell capacitors.

“*Cathode ray tube*” and its abbreviation “*CRT*” mean a vacuum tube composed primarily of leaded glass and used to convert an electrical signal into a visual image.

“*CFR*” means Code of Federal Regulations.

“*Circuit board*” means a board in a computer or electronic good that holds integrated circuits and other electronic components.

“*CRT collection*” means any activity by a CRT recycling facility or CRT collection facility involving the collection of discarded CRTs.

“*CRT collection facility*” means a site where ongoing CRT collection is the only CRT recycling activity performed.

“*CRT demanufacturing*” means any activity involving the disassembly of discarded CRTs.

“*CRT device*” means any device that contains a CRT. Examples of a CRT device include, but are not limited to, computer monitors, televisions, some cash registers, and oscilloscopes.

“*CRT fluff*” means the residual waste from the shredding of discarded CRTs.

“*CRT glass*” means any glass generated from CRTs.

“*CRT processing*” means any activity that processes discarded CRTs into raw materials.

“*CRT recycling*” means any process by which discarded CRTs or electronic materials that would otherwise become waste are collected, processed and returned to use in the form of raw materials or products. CRT recycling includes, but is not limited to, CRT demanufacturing, CRT processing, and CRT refurbishing.

“*CRT recycling facility*” means a site where CRT recycling takes place.

“*CRT refurbishing*” means any activity that repairs and rebuilds discarded CRTs, so that they may be used for their original intended purpose.

“*CRT reuse*” means any activity involving the donation or sale of discarded CRTs for their original intended purpose provided that the CRT devices are in good working order and do not require refurbishment.

“*CRT reuse facility*” means a facility where CRT reuse occurs and the only CRTs accepted are those in good working order, and the CRTs are sold or donated without being refurbished.

“*Discarded*” means no longer to be used for the original intended purpose and means the letting go or throwing away of materials that have become useless or superfluous though often not intrinsically valueless. CRTs that are returned to the original owner are not “discarded.”

“*Discarded CRT*” means a cathode ray tube or CRT device that has been discarded.

“*DOT-approved container*” means those containers approved by the U.S. Department of Transportation for shipping hazardous materials in the United States.

“*Hazardous condition*” means any situation involving the actual, imminent or probable release of a hazardous substance onto the land, into a water of the state, or into the atmosphere which, because of the quantity, strength or toxicity of the hazardous substance, its mobility in the environment and its persistence in the environment, creates an immediate or potential danger to the public health or safety, or to the environment.

“*Mercury-containing components*” means devices, other than batteries, containing a regulated amount of mercury.

“*PCB*” or “*PCBs*” means polychlorinated biphenyl, which is a chemical substance that is limited to the biphenyl molecule that has been chlorinated to varying degrees, or any combination of such substances.

“*Short-term CRT collection*” means any temporary activity involving the collection of discarded CRTs, which is not on the premises of a CRT recycling facility or CRT collection facility, and in which all discarded CRTs that have been collected are transported to a properly permitted CRT recycler or CRT reuse facility.

**567—122.4(455B,455D) Short-term CRT collection notification.** An entity conducting a short-term CRT collection event is encouraged to notify the local solid waste agency, the department field office with jurisdiction over the collection area, and the department at least 30 days prior to the event.

**567—122.5(455B,455D) Operational requirements for short-term CRT collection.** All short-term CRT collection shall be done in a manner that complies with the following requirements. So long as this rule is complied with, the only rules within this chapter that shall apply to the activity are rules 122.1(455B,455D) to 122.4(455B,455D) and this rule.

**122.5(1)** Event organizers shall work with and transport all discarded CRTs to a properly permitted CRT recycler or CRT reuse facility.

**122.5(2)** CRT glass and CRTs that show evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents into the environment shall be collected in enclosed and separate containers from other discarded CRTs. Such containers shall be protected from precipitation.

**122.5(3)** Litter shall be contained.

**567—122.6(455B,455D) CRT recycling permits.**

**122.6(1) *Permit required.*** A CRT recycling facility or CRT collection facility shall not be constructed or operated without a permit from the department.

**122.6(2) *CRT recycling permit exemption.*** If a CRT recycling facility or CRT collection facility is located at a permitted recycling or composting facility or sanitary disposal project, it shall not require its own permit; instead, the CRT recycling activities shall be amended into the host facility's permit.

**122.6(3) *Construction and operation.*** CRT recycling facilities and CRT collection facilities shall be constructed and operated according to the plans and specifications approved by the department and the conditions of the permit. The approved plans and specifications shall constitute a condition of the permit.

**122.6(4) *Transfer of title and permit.*** If title to a CRT recycling facility or CRT collection facility is transferred, then the department shall transfer the permit within 60 days if the department has found that the following requirements have been met:

*a.* The title transferee has applied in writing to the department to request a transfer of the permit within 30 days of the transfer of title.

*b.* The permitted facility is in compliance with Iowa Code chapters 455B and 455D, these rules and the conditions of the permit.

**122.6(5) *Permit conditions.*** Any permit may be issued subject to conditions specified in writing by the department that are necessary to ensure that the facility is constructed and operated in compliance with Iowa Code chapters 455B and 455D and these rules.

**122.6(6) *Effect of revocation.*** If a permit held by any public or private agency is revoked by the director, then no new permit shall be issued to that agency for that CRT recycling facility for a period of one year from the date of revocation. Such revocation shall not prohibit the issuance of a permit for the facility to another public or private agency.

**122.6(7) *Inspection prior to commencing new operation.*** The department shall be notified when the construction of a new facility has been completed. No discarded CRTs shall be accepted by the facility until it has been inspected and approved by the department or until 30 days have passed from the date of permit issuance and no inspection has been performed by the department.

**122.6(8) *Duration and renewal of permits.*** A permit shall be issued and may be renewed for a period of three years, unless otherwise authorized by the department.

**122.6(9) *Request and approval of permit renewal.*** A request for permit renewal shall be in writing and shall be filed at least 90 days before the expiration of the current permit by submitting Form 50 (542-1542) to the department. The department may request that additional information be submitted for review to make a permit renewal decision. The department shall renew the permit if, after a review and inspection of the facility and its compliance history, the department finds that the facility is in compliance with Iowa Code chapters 455B and 455D, these rules and the conditions of the permit, and is making a good-faith effort to maintain compliance. If the facility is found not to be in compliance with Iowa Code chapters 455B and 455D, these rules, and the conditions of the permit or if a good-faith effort to maintain compliance is not being made, the facility shall be brought into compliance or placed on a compliance schedule approved by the department before the permit is renewed.

**122.6(10) *Request for permit modification.*** A request for permit modification shall be submitted in writing to the department with supporting documentation and materials. The department may request that additional information be submitted for review to make a permit modification decision.

**567—122.7(455B,455D) Permit application requirements for CRT collection facilities.** An applicant for a CRT collection facility permit must submit the following information to the department:

**122.7(1)** The name, address, and telephone number of:

- a.* The owner of the site where the collection project will be located.
- b.* The permit applicant.
- c.* The site where the collection project will be located.
- d.* The individual responsible for the operation of the collection project.

**122.7(2)** Proof of the applicant's ownership of the site or legal entitlement to use the site for CRT collection.

**122.7(3)** Documentation that the facility meets local zoning requirements.

**122.7(4)** Days and hours of operation of the site.

**122.7(5)** The service area of the facility.

**122.7(6)** Area and estimated population to be served by the CRT collection facility.

**122.7(7)** A description of how the site and discarded CRTs will be secured.

**122.7(8)** Site plans, including floor plans of buildings where discarded CRTs will be collected and stored. Semitrailers may also be utilized.

**122.7(9)** The name(s) of the CRT recycling facility or facilities serving the applicant.

**567—122.8(455B,455D) Operational requirements for CRT collection facilities.** All CRT collection shall be done in a manner that complies with the following requirements. So long as this rule is complied with, the only rules within this chapter that shall apply to the permitted activity are rules 122.1(455B,455D) to 122.3(455B,455D), 122.6(455B,455D), 122.7(455B,455D), 122.9(455B,455D), 122.10(455B,455D), and this rule.

**122.8(1)** CRT storage at a permitted collection site shall be limited to 48 Gaylord boxes or the equivalent containing no more than 2,000 CRTs. A permitted CRT collection site may store additional CRTs subject to the permit holder's obtaining and maintaining financial assurance for these additional CRTs in accordance with rule 567—122.28(455B,455D).

**122.8(2)** Collection activities for discarded CRTs shall occur in an area and through a process that minimizes the risk of hazardous conditions.

**122.8(3)** Any hazardous condition shall immediately be contained and remedied with proper equipment and procedures.

**122.8(4)** Discarded CRTs shall be collected and contained in a manner that is structurally adequate to prevent breakage and spillage under normal operating conditions and that is compatible with the contents.

**122.8(5)** CRT glass and CRTs that show evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents into the environment shall be collected in enclosed and separate containers from other discarded CRTs. Such containers shall be protected from precipitation.

**122.8(6)** A CRT recycling facility may store discarded CRTs and materials derived from discarded CRTs outdoors if the following conditions are met:

*a.* The facility has a stormwater permit, if applicable.

*b.* The material is not harboring or attracting vectors.

*c.* Litter is contained within the storage area or unit.

*d.* The discarded CRTs and materials derived from discarded CRTs are not broken CRTs or CRT glass.

**122.8(7)** Discarded CRTs and materials derived from discarded CRTs shall not be speculatively accumulated at a permitted CRT recycling facility without the permit holder's obtaining and maintaining financial assurance for the additional CRTs in accordance with rule 122.28(455B,455D). Speculative accumulation occurs when a facility cannot demonstrate that the amount of discarded CRTs leaving the facility within a 12-month time period is greater than 60 percent, by weight or volume, of the discarded CRTs and materials derived from discarded CRTs received by the facility within a 12-month time period.

**122.8(8)** Containers or packages shall be labeled and transported in compliance with state and federal Department of Transportation (DOT) regulations.

**567—122.9(455B,455D) Reporting requirements for CRT collection facilities.** A CRT collection facility shall maintain copies of all invoices received from CRT recycling facilities to which discarded CRTs have been transported for each calendar year and report this information to the department within 30 days of the end of that calendar year.

**567—122.10(455B,455D) Record-keeping requirements for CRT collection facilities.** All CRT collection facilities shall maintain the following records, on a calendar-year basis, for three years:

**122.10(1)** The name and address of the facility receiving a shipment that left the CRT collection facility, and contact information for that facility.

**122.10(2)** The type of service the receiving facility will provide to the CRT collection facility.

**122.10(3)** A description of the shipment contents.

**122.10(4)** All bills of lading.

**122.10(5)** All hazardous waste manifests.

**567—122.11(455B,455D) CRT recycling facility permit application requirements.**

**122.11(1)** A CRT recycling facility permit applicant shall submit the following permit application information to the department:

- a.* The name, address, and telephone number of:
    - (1) The owner of the site where the project will be located.
    - (2) The permit applicant.
    - (3) The individual responsible for the operation of the project.
    - (4) The professional engineer (P.E.) licensed in the state of Iowa and retained for the design of the facility, if any.
    - (5) The agency to be served by the project, if any.
    - (6) The responsible official of the agency to be served, if any.
  - b.* A legal description of the site, and any collection sites if separate from the main facility.
  - c.* A map or aerial photograph locating the boundaries of the site and identifying:
    - (1) North and other principal compass points.
    - (2) Zoning and land use within 250 feet of the property boundary.
    - (3) Homes and buildings within 250 feet of the property boundary.
    - (4) Section lines or other legal boundaries.
    - (5) The 100-year flood plain pursuant to rule 122.12(455B,455D).
  - d.* Proof of the applicant's ownership of the site or legal entitlement to use the site for CRT recycling.
  - e.* Documentation that the facility meets local zoning requirements.
  - f.* Days and hours of operation of the site.
  - g.* The service area of the facility.
  - h.* The type, source, and number or weight of discarded CRTs expected to be handled each year.
  - i.* A description of the CRT recycling process to be used, such as collection, demanufacturing, processing, reuse, refurbishing, or a combination thereof.
  - j.* Site plans detailing how the site will comply with rule 122.13(455B,455D), including floor plans of buildings where discarded CRTs will be handled and the location within each building for specific recycling activities.
  - k.* A plan of operations detailing how the site will comply with rules 122.14(455B,455D) to 122.22(455B,455D).
  - l.* An emergency response and remedial action plan (ERRAP) pursuant to rule 122.23(455B,455D).
  - m.* A reporting plan detailing how the site will comply with rule 122.25(455B,455D).
  - n.* A closure plan detailing how the site will comply with rule 122.27(455B,455D).
- 122.11(2)** If the department finds the permit application information to be incomplete, it shall notify the applicant of that fact and of the specific deficiencies. If the deficiencies are not corrected within 30 days, the department shall return the application materials to the applicant. The applicant may reapply without prejudice.

**567—122.12(455B,455D) Site requirements for CRT recycling facilities.** A CRT recycling facility shall not be located within a 100-year flood plain.

**567—122.13(455B,455D) Design requirements for CRT recycling facilities.** A CRT recycling facility shall be designed and constructed to meet the following requirements:

**122.13(1)** CRT recycling facilities shall be enclosed by walls, a roof, and a floor satisfactory to:

- a. Prevent litter from exiting the building.
- b. Keep precipitation out of the building.

**122.13(2)** A CRT recycling facility shall maintain a separation between stormwater and liquids generated inside the building.

**122.13(3)** Discarded CRTs shall be demanufactured and processed in an area where hazardous materials can be contained.

**122.13(4)** A sign shall be posted at the primary entrance to the facility. The sign shall be a minimum of  $8\frac{1}{2} \times 11$  inches and visible from the outside of the building at approximately eye level. The lettering shall be a minimum of 1-inch high and state the following information:

- a. Name and permit number of facility.
- b. Telephone number of emergency contact person(s).

**122.13(5)** A CRT recycling facility may store discarded CRTs and materials derived from discarded CRTs outdoors if the following conditions are met:

- a. The facility has a stormwater permit, if applicable.
- b. The material is not harboring or attracting vectors.
- c. Litter is contained within the storage area or unit.
- d. The discarded CRTs and materials derived from discarded CRTs are not broken CRTs or CRT glass.

**567—122.14(455B,455D) Operational requirements for permitted CRT recycling facilities.**

**122.14(1) *Collection requirements for CRTs.*** All discarded CRTs coming into the CRT recycling facility shall be collected in a manner that complies with the following requirements:

- a. Collection activities for discarded CRTs shall occur in an area and through a process that minimizes the risk of hazardous conditions.
- b. Discarded CRTs shall be collected and contained in a manner that is structurally adequate to prevent breakage and spillage under normal operating conditions, and that is compatible with the contents.
- c. CRT glass and CRTs that show evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents into the environment shall be collected in enclosed and separate containers from other discarded CRTs.

**122.14(2) *Transportation requirements for CRTs.*** All discarded CRTs leaving the CRT recycling facility shall be transported in a manner that complies with the following requirements:

- a. Discarded CRTs shall be transported in a contained manner that is structurally adequate to prevent breakage and spillage under normal operating conditions, and that is compatible with the contents.
- b. Containers or packages shall be labeled. Labeling shall specify the contents (e.g., CRTs, non-intact CRTs), point of origin, destination, and shipment date.
- c. CRT glass and CRTs that show evidence of breakage, leakage, or damage that could cause the release of lead or other hazardous constituents into the environment shall be transported in enclosed and separate containers from other discarded CRTs.
- d. Discarded CRTs shall be transported in compliance with state and federal Department of Transportation (DOT) regulations.

**122.14(3) *General operating requirements.*** All CRT recycling facilities shall comply with the following requirements:

- a.* CRT refurbishing, CRT demanufacturing, and CRT processing shall be done in a specifically designated location within a facility.
- b.* Working conditions shall be in compliance with state and federal worker safety requirements.

**567—122.15(455B,455D) Further requirements for batteries for CRT recycling facilities.**

**122.15(1)** CRT recycling facilities shall manage waste batteries derived from discarded CRTs in a manner that prevents release of any hazardous material into the environment.

**122.15(2)** Any battery that shows evidence of leakage, spillage, or damage that could cause a release of hazardous material into the environment must be contained in a container that is compatible with the contents of the battery.

**122.15(3)** All batteries must be managed in accordance with all state and federal regulations.

**567—122.16(455B,455D) Further requirements for circuit boards for CRT recycling facilities.**

Spent circuit boards are regulated as scrap metal when recycled and stored in containers sufficient to prevent a release into the environment and the circuit board contains only minor battery or mercury switching components. If minor batteries and mercury switching components are removed, the minor batteries or mercury switching components may be universal waste under 40 CFR Part 273 or a hazardous waste under 40 CFR Parts 261, 262, and 263.

**567—122.17(455B,455D) Further requirements for CRTs for CRT recycling facilities.**

**122.17(1)** CRT recycling facilities shall manage CRT materials in a manner that prevents the release of any hazardous material or component into the environment as follows:

- a.* A CRT recycling facility shall immediately clean up and contain any CRTs, CRT devices, and CRT glass that are unintentionally broken.
- b.* A CRT recycling facility may disassemble or crush CRTs provided the handler crushes CRTs in a controlled manner.

**122.17(2)** All CRTs, CRT devices, and CRT glass must be managed in accordance with all state and federal regulations.

**567—122.18(455B,455D) Further requirements for removal and disposal of mercury-containing components for CRT recycling facilities.**

**122.18(1)** CRT demanufacturers and CRT processors that manage mercury-containing components may be considered hazardous waste generators. Precautions shall be taken to prevent the release of mercury.

**122.18(2)** All removed mercury-containing components shall be stored in a DOT-approved container and labeled with a label stating “hazardous waste—mercury” or “mercury components” in both English and the predominant language of any non-English-reading workers. Furthermore, the date when the first mercury-containing component was placed in the container shall be affixed on the container.

**122.18(3)** All mercury containers shall be sealed prior to shipment.

**122.18(4)** All mercury-containing components shall be managed at an EPA-approved mercury recycling or recovery facility.

**122.18(5)** Mercury-containing components must be managed in accordance with all state and federal regulations.

**567—122.19(455B,455D) Further requirements for removal and disposal of PCB capacitors for CRT recycling facilities.**

**122.19(1)** CRT demanufacturers and CRT processors shall remove all capacitors not marked as non-PCB unless the manufacturer certifies in writing that no PCBs were used in the manufacture of the discarded CRT or capacitor.

**122.19(2)** All capacitors are assumed to contain PCBs unless proven otherwise by an approved laboratory, unless the words “No PCBs” have been imprinted on the body of the capacitor by the manufacturer, or unless the manufacturer certifies in writing that no PCBs were used in the manufacture of the discarded CRT or capacitor.

**122.19(3)** Capacitors that are proven not to contain PCBs may be recycled or disposed of as non-hazardous waste.

**122.19(4)** PCB capacitors shall be stored and transported in compliance with the Toxic Substances Control Act (TSCA; 40 CFR Part 761) and disposed of at a TSCA-permitted disposal facility. Facilities used for the storage of PCB items designated for disposal shall comply with the following requirements:

*a.* PCB items shall be stored in a manner that provides adequate protection from the elements and adequate secondary containment. Storage shall be over an impervious material.

*b.* All capacitors containing or suspected of containing PCBs shall be placed in a DOT-approved container that shows no signs of damage. The bottom of the container shall be filled to a depth of two inches with an absorbent material (e.g., oil-dry, kitty litter).

*c.* All DOT-approved containers shall be affixed with an EPA-approved 6-inch × 6-inch yellow label stating “PCBs” in both English and the predominant language of any non-English-reading workers (Reference: 40 CFR Part 761.45). Furthermore, the date when the first capacitor was placed in the container shall be affixed on the container.

*d.* All containers must be sealed prior to shipment.

*e.* Capacitors shall be stored for no more than 270 days.

**122.19(5)** An EPA-approved PCB transporter using an EPA Uniform Hazardous Waste form may be required to transport the labeled and dated container. The demanufacturer has one year from the first date entered on the container to have the contents buried at a TSCA landfill or incinerated at a TSCA disposal facility (Reference: 40 CFR Part 761.65). The burial or incineration must be documented and the records kept by the demanufacturer for three years from the date the PCB waste was accepted by the initial transporter.

**567—122.20(455B,455D) Spills and releases at CRT recycling facilities.**

**122.20(1)** Any spills from leaking or cracked capacitors shall be handled by placing the capacitor or component containing the capacitor and any contaminated rags, clothing, absorbents, and soil into a DOT-approved container for PCBs for shipment to an EPA-approved PCB waste disposal facility. Spills of PCBs that occur outside a DOT-approved container shall be cleaned up pursuant to 40 CFR Part 761.125. Detailed records of such cleanups and sampling shall be maintained pursuant to 40 CFR Part 761.180.

**122.20(2)** Mercury spill kits, with a mercury absorbent in the kits, shall be readily available and immediately utilized in the event of a mercury spill. Any waste from the cleanup of a mercury spill shall be managed in accordance with state and federal rules.

**122.20(3)** Any hazardous condition shall be immediately contained and remedied with proper equipment and procedures pursuant to 567—Chapter 131 and the emergency response and remedial action plan (ERRAP) pursuant to rule 122.23(455B,455D). Within six hours of the release, the department field office with jurisdiction over the spill or release location shall be notified.



**567—122.21(455B,455D) CRT recycling facilities that shred CRTs.** CRT fluff from the shredding of discarded CRTs shall be sampled quarterly, at a minimum, and analyzed according to Test Methods for Evaluation of Solid Waste, Physical-Chemical Methods SW 846, U.S. EPA, Third Edition 1986, or other method approved by the department, for the presence of PCBs. CRT fluff from the shredding of discarded CRTs shall be sampled quarterly at a minimum and analyzed for metals according to the toxicity characteristic leaching procedure (TCLP, EPA Method 1311). The fluff shall be sampled once per day for seven consecutive working days to make a composite sample. If the total PCB amount is less than 50 parts per million (ppm) and if the TCLP results demonstrate the CRT fluff is not hazardous, then the CRT fluff may be disposed of in a municipal solid waste (MSW) sanitary landfill in Iowa.

**567—122.22(455B,455D) Storage requirements for CRT recycling facilities.** All CRT recycling facilities shall store discarded CRTs in compliance with the following requirements:

**122.22(1)** Discarded CRTs and materials derived from discarded CRTs shall be stored in a manner that minimizes the risk of a release into the environment.

**122.22(2)** Discarded CRTs and materials derived from discarded CRTs shall not be speculatively accumulated. Speculative accumulation occurs when a facility cannot demonstrate that the amount of discarded CRTs and materials derived from discarded CRTs leaving the facility within a 12-month time period is greater than 75 percent, by weight or volume, of the discarded CRTs and materials derived from discarded CRTs received by the facility within a 12-month time period.

**567—122.23(455B,455D) ERRAP requirements for CRT recycling facilities.** A CRT recycling facility shall develop, submit to the department for approval, and maintain on site a detailed emergency response and remedial action plan (ERRAP).

**122.23(1) Submittal requirements.** An updated ERRAP shall be included with any request for permit modification, to incorporate a facility expansion, or for significant changes in facility operation that require modification of the currently approved ERRAP.

**122.23(2) Content.** The content of ERRAP documents shall be concise and readily usable as a reference manual by facility managers and operators during emergency conditions. The ERRAP document content shall address at least the following primary issues in detail, unless project conditions render the specific issue as not applicable. To facilitate department review, the rationale for exclusion of any issues that are not determined to be applicable must be provided either in the body of the plan or as a supplement. Additional ERRAP requirements unique to the facility shall be addressed, as applicable.

*a. Facility information.*

- (1) Permitted agency.
- (2) DNR permit number.
- (3) Responsible individual and contact information.
- (4) Facility description.
- (5) Site and environs map.

*b. Regulatory requirements—reference to provisions of the permit.*

*c. Emergency conditions—response activities—remedial action.*

- (1) Failure of utilities.
  1. Short-term (48 hours or less).
  2. Long-term (over 48 hours).
- (2) Weather-related event.
  1. Tornado.
  2. Windstorms.
  3. Intense rainstorms.
  4. Lightning strikes.
  5. Flooding.

- (3) Fire and explosions.
  1. Discarded CRT materials.
  2. Building and site.
  3. Equipment.
  4. Utilities.
  5. Working area.
  6. Evacuation.
- (4) Regulated waste and hazardous material spills and releases.
  1. Collection.
  2. Transport.
  3. Working area.
  4. Storage.
- (5) Emergency and release notifications and reporting.
  1. Federal agencies.
  2. State agencies.
  3. County and city agencies.
  4. Emergency response agencies.
  5. Special populations within 2 miles.
  6. Reporting requirements and forms.
- (6) Emergency aid.
  1. Responder contacts.
  2. Medical services.
  3. Contracts and agreements.
- (7) Primary emergency equipment inventory.
  1. Major equipment.
  2. Fire hydrants and water sources.
  3. Off-site equipment resources.
- (8) ERRAP training requirements.
  1. Training providers.
  2. Employee orientation.
  3. Annual training updates.
  4. Training completion and record keeping.
- (9) Reference tables, figures and maps.

**567—122.24(455B,455D) Training requirements for CRT recycling facilities.**

**122.24(1) General training.** Beginning July 1, 2005, all employees of a CRT recycling facility involved in activities relevant to CRT recycling shall be trained on the following requirements and procedures as appropriate to the employees' specific job responsibilities:

- a.* The requirements of this chapter.
- b.* Standard operating procedures utilized by the CRT recycling facility, including:
  - (1) The proper method of loading and unloading discarded CRTs and materials derived from discarded CRTs.
  - (2) The proper collection, storage, and transportation requirements for discarded CRTs and materials derived from discarded CRTs.
  - (3) The proper disposal of discarded CRTs and materials derived from discarded CRTs.
  - (4) The proper management of batteries.
  - (5) The proper management of CRTs.
  - (6) The proper management of circuit boards.

- (7) The proper management of mercury-containing components.
- (8) The proper management of PCBs.
- (9) Spill and release response procedures.
- (10) Worker health and safety.
- (11) Use of the department-approved ERRAP.

**122.24(2) *DNR-approved training course.*** Beginning July 1, 2005, CRT recycling facilities shall ensure that at least one employee directly involved in operations has completed a DNR-approved training course. At least one employee who has completed a DNR-approved course shall be on site when CRTs are being intentionally broken.

**567—122.25(455B,455D) Reporting requirements for CRT recycling facilities.** A CRT recycling facility shall maintain the following records for each calendar year and report this information to the department within 30 days of the end of that calendar year:

**122.25(1)** The total weight or number of materials received from nonpermitted sources, listed by product category. The product categories shall be:

- a. Monitors.
- b. Televisions.
- c. All other discarded electronics collected, but not mentioned above in aggregate.

**122.25(2)** The total aggregate weight or number of materials received from nonpermitted sources.

**122.25(3)** The percentage of materials covered by subrules 122.25(1) and 122.25(2) received from businesses and institutions.

**122.25(4)** The percentage of materials covered by subrules 122.25(1) and 122.25(2) received from households.

**122.25(5)** The total aggregate weight of shipments leaving the CRT recycling facility on a monthly basis.

**567—122.26(455B,455D) Record-keeping requirements for CRT recycling facilities.** All CRT recycling facilities shall maintain the following records, on a calendar-year basis, for three years:

**122.26(1)** The total aggregate weight and receipt date of each shipment of discarded CRTs received from businesses, institutions, CRT collection facilities, short-term CRT collection events, and other permitted CRT recycling facilities.

**122.26(2)** The name, address and contact information for shipments reported in subrule 122.26(1).

**122.26(3)** The total aggregate weight and date of each shipment leaving the CRT recycling facility.

**122.26(4)** The name and address of the facility receiving a shipment that left the CRT recycling facility, contact information for the receiving facility and a description of the shipment contents including all applicable bills of lading.

**122.26(5)** The type of service the receiving facility will provide to the CRT recycling facility.

**122.26(6)** All hazardous waste manifests.

**122.26(7)** Information related to the management of spills and releases pursuant to rule 122.20(455B,455D).

**122.26(8)** Information related to the management of CRT fluff pursuant to rule 122.21(455B,455D).

**122.26(9)** Information related to training requirements and a list of individuals who have received DNR-approved training pursuant to subrule 122.24(2).

**567—122.27(455B,455D) Closure requirements for CRT recycling facilities.** A CRT recycling facility shall submit to the department and department field office with jurisdiction over the facility written notice of intent to permanently close at least 60 days before closure. Closure shall be in conformance with the closure plan pursuant to paragraph 122.11(1) “n.” Closure shall not be official until the department field office with jurisdiction over the facility has given written certification of the proper disposal of all solid waste, discarded CRTs, and materials derived from discarded CRTs at the site.

**567—122.28(455B,455D) Financial assurance requirements for cathode ray tube (CRT) collection and recycling facilities.** Permitted CRT collection and recycling facilities must obtain and submit a financial assurance instrument to the department for the storage of solid waste, discarded CRTs and materials derived from discarded CRTs at the site in accordance with this rule. The financial assurance instrument shall provide monetary funds to properly dispose of solid waste, discarded CRTs and materials derived from discarded CRTs that may remain at a site due to the owner’s or operator’s failure to properly close the site within 30 days of permit suspension, termination, revocation, or expiration.

**122.28(1)** No permit without financial assurance. The department shall not issue or renew a permit to an owner or operator of a CRT collection or recycling facility until a financial assurance instrument has been submitted to and approved by the department.

**122.28(2)** Proof of compliance. Proof of the establishment of the financial assurance instrument and compliance with this rule, including a current closure cost estimate, shall be submitted to the department by July 1, 2008, or at the time of application for a permit for a new CRT collection or recycling facility. The owner or operator must provide continuous coverage for closure and submit proof of compliance, including an updated closure cost estimate, with each permit renewal thereafter until released from this requirement by the department.

**122.28(3)** Use of one financial assurance instrument for multiple permitted activities. CRT collection or recycling facilities required to maintain financial assurance pursuant to any other provisions of 567—Chapters 100 to 123 may satisfy the requirements of this rule by the use of one financial assurance instrument if the permit holder ensures that the instrument provides financial assurance for an amount at least equal to the current cost estimates for closure of all sanitary disposal project activities covered.

**122.28(4)** The estimate submitted to the department must account for at least the following factors determined by the department to be minimal necessary costs for closure pursuant to rule 122.27(455B,455D):

*a.* CRT collection facilities shall have financial assurance coverage equal to one dollar per pound stored above the permitted storage capacity of 48 Gaylord boxes or the equivalent containing no more than 2,000 CRTs, in accordance with subrule 122.8(1).

*b.* CRT recycling facilities shall have financial assurance coverage equal to one dollar per pound of CRTs determined to be speculatively accumulated in accordance with subrule 122.8(7).

**122.28(5)** Acceptable financial assurance instruments. The financial assurance instrument shall be established in an amount equal to the cost estimate prepared in accordance with subrule 122.28(4) and shall not be canceled, revoked, disbursed, released, or allowed to terminate without the approval of the department. Financial assurance may be provided by cash in the form of a secured trust fund or local government dedicated fund, surety bond, letter of credit, or corporate or local government guarantee as follows:

*a. Secured trust fund.* The owner or operator of a CRT collection or recycling facility or an entity serving as a guarantor may demonstrate financial assurance for closure by establishing a secured trust fund that conforms to the requirements of this paragraph.

(1) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency. The fund shall be restricted for the sole purpose of funding closure activities at the facility, and a copy of the trust agreement must be submitted to the department and placed in the facility’s official files.

(2) A secured trust fund shall name the department of natural resources as the entity authorized to draw funds from the trust, subject to proper notification to the trust officer of failure by the permittee to properly close the site within 30 days of permit suspension, termination, revocation, or expiration.

(3) Moneys in the fund shall not be assigned for the benefit of creditors with the exception of the state.

(4) Moneys in the fund shall not be used to pay any final judgment against a permit holder arising out of the ownership or operation of the site during its active life or after closure.

(5) The owner or operator or another person authorized to conduct closure activities may request reimbursement from the trustee for closure expenditures as they are incurred. Requests for reimbursement shall be granted by the trustee only if sufficient funds are remaining in the trust fund to cover the remaining costs of closure and if documentation of the justification for reimbursement has been submitted to the department for prior approval.

(6) If the balance of the trust fund exceeds the current cost estimate for closure at any time, the owner or operator may request withdrawal of the excess funds from the trustee so long as the withdrawal does not cause the balance to be reduced below the amount of the current cost estimate.

*b. Local government dedicated fund.* The owner or operator of a publicly owned CRT collection or recycling facility or a local government serving as a guarantor may demonstrate financial assurance for closure by establishing a dedicated fund that conforms to the requirements of this paragraph.

(1) The fund shall be dedicated by state constitutional provision or local government statute, charter, ordinance, resolution or order as a restricted fund to pay for closure costs arising from the operation of the facility.

(2) A copy of the document establishing the dedicated fund must be submitted to the department and placed in the facility's official files.

(3) If the balance of the dedicated fund exceeds the current cost estimate for closure at any time, the owner or operator may withdraw excess funds so long as the withdrawal does not cause the balance to be reduced below the amount of the current cost estimate.

*c. Surety bond.* A surety bond must be written by a company authorized by the commissioner of insurance to do business in the state. The surety bond shall comply with the following:

(1) The bond shall be in a form approved by the commissioner of insurance and shall be payable to the department of natural resources.

(2) The bond shall be specific to a particular facility for the purpose of properly disposing of any solid waste, discarded CRTs, and materials derived from discarded CRTs associated with the collection and recycling of CRTs that may remain on site due to the owner's or operator's failure to properly close the site within 30 days of permit suspension, termination, revocation, or expiration.

(3) The owner or operator shall provide the department with a statement from the surety with each permit application renewal, noting that the bond is paid and current for the permit period for which the owner or operator has applied for renewal.

*d. Letter of credit.* The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

(1) The owner or operator must submit to the department a copy of the letter of credit and place a copy in the facility's official files.

(2) A letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the name and address of the facility and the amount of funds assured, must be included with the letter of credit submitted to the department and placed in the facility's files.

(3) The letter of credit must be irrevocable and must be issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless the issuing institution has canceled the letter of credit by sending notice of cancellation by certified mail to the owner or operator and to the department 90 days in advance of cancellation. When such notice is provided, the owner or operator shall, within 60 days, provide to the department adequate proof of alternative financial assurance, notice of withdrawal of cancellation, or proof of a deposit of a sum equal to the amount of the letter of credit into a secured trust fund that meets the requirements of paragraph 122.28(5) "a." If the owner or operator has not complied with this subrule within the 60-day time period, the issuer of the letter of credit shall deposit a sum equal to the amount of the letter of credit into the secured trust fund established by the owner or operator. The provision of funds by the issuer of the letter of credit shall be considered an issuance of a loan to the owner or operator, and the terms of that loan shall be governed by the letter of credit or subsequent agreement between those parties. The state shall not be considered a party to this credit transaction.

*e. Corporate guarantee.* An owner or operator may meet the requirements of this rule by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, an owner or operator whose parent corporation is also the parent corporation of the owner or operator, or an owner or operator with a "substantial business relationship" with the owner or operator.

(1) The terms of the written guarantee must provide that within 30 days of the owner's or operator's failure to perform closure of a facility covered by the guarantee, the guarantor will:

1. Perform closure or pay a third party to perform closure as required (performance guarantee);
2. Establish a fully funded secured trust fund as specified in paragraph 122.28(5) "a" in the name of the owner or operator (payment guarantee); or
3. Establish an alternative financial assurance instrument in the name of the owner or operator as required by this rule.

(2) The guarantor must satisfy one of the following three conditions:

1. A current rating for its senior unsubordinated debt of AAA, AA, A, or BBB as issued by Standard & Poor's or Aaa, Aa, A, or Baa as issued by Moody's; or
2. A ratio of less than 1.5 comparing total liabilities to net worth; or
3. A ratio of greater than 0.10 comparing the sum of net income plus depreciation, depletion and amortization, minus \$10 million, to total liabilities.

(3) The tangible net worth of the guarantor must be greater than the sum of the current closure cost estimate and any other environmental obligations, including other financial assurance guarantees.

(4) The guarantor must have assets amounting to at least the sum of the current closure cost estimate and any other environmental obligations, including other financial assurance guarantees.

(5) Record-keeping and reporting requirements. The guarantor must submit the following records to the department and place a copy in the facility's official files:

1. A copy of the written guarantee between the owner or operator and the guarantor.
2. A letter signed by a certified public accountant and based upon a certified audit that:
  - Lists all the current cost estimates covered by a guarantee including, but not limited to, cost estimates required by subrule 122.28(4); cost estimates required for municipal solid waste management facilities pursuant to 40 CFR Part 258; cost estimates required for UIC facilities under 40 CFR Part 144, if applicable; cost estimates required for petroleum underground storage tank facilities under 40 CFR Part 280, if applicable; cost estimates required for PCB storage facilities under 40 CFR Part 761, if applicable; and cost estimates required for hazardous waste treatment, storage, and disposal facilities under 40 CFR Parts 264 and 265, if applicable; and
  - Provides evidence demonstrating that the guarantor meets the conditions of subparagraphs 122.28(5) "e"(2), (3) and (4).

3. A copy of the independent certified public accountant's unqualified opinion of the guarantor's financial statements for the latest completed fiscal year. In order for the guarantor to be eligible to use the guarantee, the guarantor's financial statements must receive an unqualified opinion from the independent certified public accountant. An adverse opinion or disclaimer of opinion shall be cause for disallowance of this instrument. A qualified opinion related to the demonstration of financial assurance may, at the discretion of the department, be cause for disallowance. If the department does not allow use of the corporate guarantee, the owner or operator must provide alternative financial assurance that meets the requirements of this rule.

*f. Local government guarantee.* An owner or operator may demonstrate financial assurance for closure by obtaining a written guarantee provided by a local government or jointly provided by the members of an agency established pursuant to Iowa Code chapter 28E.

(1) The terms of the written guarantee must provide that within 30 days of the owner's or operator's failure to perform closure of a facility covered by the guarantee, the guarantor will:

1. Perform closure or pay a third party to perform closure as required (performance guarantee);
2. Establish a fully funded secured trust fund as specified in paragraph 122.28(5) "a" in the name of the owner or operator (payment guarantee); or
3. Establish an alternative financial assurance instrument in the name of the owner or operator as required by this rule.

(2) The guarantor must satisfy one of the following requirements:

1. If the guarantor has outstanding, rated, general obligation bonds that are not secured by insurance, a letter of credit, or other collateral or guarantee, the guarantor must have a current rating of Aaa, Aa, A, or Baa, as issued by Moody's, or AAA, AA, A, or BBB, as issued by Standard & Poor's, on all such general obligation bonds; or

2. The guarantor must satisfy each of the following financial ratios based on the guarantor's most recent audited annual financial statement: a ratio of cash plus marketable securities to total expenditures greater than or equal to 0.05, and a ratio of annual debt service to total expenditures less than or equal to 0.20.

(3) The guarantor must prepare its financial statements in conformity with generally accepted accounting principles or other comprehensive basis of accounting and have its financial statements audited by an independent certified public accountant or the office of the auditor of the state of Iowa. The financial statement shall be in the form prescribed by the office of the auditor of the state of Iowa.

(4) A guarantor is not eligible to assure its obligations if:

1. The guarantor is currently in default on any outstanding general obligation bonds; or
2. The guarantor has any outstanding general obligation bonds rated lower than Baa as issued by Moody's or BBB as issued by Standard & Poor's; or

3. The guarantor operated at a deficit equal to 5 percent or more of total annual revenue in each of the past two fiscal years; or

4. The guarantor receives an adverse opinion or disclaimer of opinion from the independent certified public accountant or office of the auditor of the state of Iowa auditing its financial statement. A qualified opinion that is related to the demonstration of financial assurance may, at the discretion of the department, be cause for disallowance of this mechanism; or

5. The closure costs to be assured are greater than 43 percent of the guarantor's total annual revenue.

(5) The local government guarantor must include disclosure of the closure costs assured through the guarantee in its next annual audit report prior to the initial receipt of CRTs at the facility or prior to cancellation of an alternative financial assurance instrument, whichever is later. For the first year the guarantee is used to assure costs at a particular facility, the reference may instead be placed in the guarantor's official files until issuance of the next available annual audit report if timing does not permit the reference to be incorporated into the most recently issued annual audit report or budget. For closure costs, conformance with Governmental Accounting Standards Board Statement 18 ensures compliance with this public notice component.

(6) The local government owner or operator must submit to the department the following items:

1. A copy of the written guarantee between the owner or operator and the local government serving as guarantor for the closure costs at the facility.
2. A copy of the guarantor's most recent annual financial audit report indicating compliance with the financial ratios required by numbered paragraph 122.28(5) "f"(2)"2," if applicable, and the requirements of subparagraphs 122.28(5) "f"(3) and (4).
3. A letter signed by the local government's chief financial officer that lists all the current cost estimates covered by the guarantor, as described in subrule 122.28(4); and that provides evidence and certifies that the local government meets the conditions of subparagraphs 122.28(5) "f"(2), (3), (4) and (5).

**122.28(6) Financial assurance cancellation and permit suspension.**

a. A financial assurance instrument may be terminated by the owner or operator only if the owner or operator substitutes alternate financial assurance prior to cancellation, as specified in this rule, or if the owner or operator is no longer required to demonstrate financial responsibility in accordance with this rule.

b. A financial assurance instrument shall be continuous in nature until canceled by the financial assurance provider or until the department gives written notification to the owner, operator, and financial assurance provider that the covered site has been properly closed. The financial assurance provider shall give at least 90 days' notice in writing to the owner or operator and the department in the event of any intent to cancel the instrument.

c. Within 60 days of receipt of a written notice of cancellation of financial assurance by the financial assurance provider, the owner or operator must provide the department an alternative financial assurance instrument. If a means of continued financial assurance is not provided within that 60 days, the department shall suspend the permit.

d. The owner or operator shall perform proper closure within 30 days of the permit suspension. For the purpose of this rule, "proper closure" means completion of all items pursuant to rule 122.27(455B,455D) and subrule 122.28(4).

e. If the owner or operator does not properly close the site within the 30-day period allowed, the department shall file a claim with the financial assurance instrument provider to collect the amount of funds necessary to properly close the site.

f. An owner or operator who elects to terminate a permitted activity, whose renewal application has been denied, or whose permit has been suspended or revoked for cause must submit within 30 days of the termination of the permit a schedule for completing proper closure of the terminated activity. Closure completion cannot exceed 60 days from the date of termination of the permit.

g. The director may also request payment from any financial assurance provider for the purpose of completing closure when the following circumstances exist:

(1) The owner or operator is more than 15 days late in providing a schedule for closure or for meeting any date in the schedule for closure.

(2) The owner or operator declares an economic inability to comply with this rule, either by sending written notification to the director or through an action such as, but not limited to, filing for bankruptcy.

These rules are intended to implement Iowa Code sections 455D.6(7) and 455B.304(1).

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